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| 10/066,099      | 02/01/2002  | John B. Roes         | 0685-095            | 6030             |

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EXAMINER

LEE, DAVID J

ART UNIT PAPER NUMBER

2633

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/066,099

Applicant(s)

ROES ET AL.

Examiner

David Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/1/02.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 31 and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Gerber (US Patent No. 6,450,816 B1; hereinafter referred to as Gerber '816).

Regarding claim 31, Gerber '816 teaches a combat interrogatory unit for use in a combat identification as friend or foe (IFF) communications system (fig. 1), the combat interrogatory unit comprising: projector means for projecting an infrared (IR) transmit signal (68 and 70 of fig. 5; 256 of fig. 17; col. 3, lines 10-12) including a transmitted code of the day (TCOD) (col. 3, lines 52-55); receiver means for receiving a reflected IR transmit signal including a response code of the day (RCOD) (col. 4, lines 13-15); and

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means for combining the received RCOD with the TCOD (257 of fig. 17) to identify the source of the reflected IR transmit signal as friend or foe (258 or 259 of fig. 17).

Regarding claim 34, Gerber '816 teaches means for fixing the projector means and the receiver means to a weapon (fig. 1).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerber '816 in view of Wootton et al. (US Patent No. 5,459,470).

Regarding claim 32, Gerber '816 teaches the limitations of claim 31 but does not expressly disclose means for combining a first stored code of the day (COD) with a randomly-generated number (RGN) to produce the TCOD. Wootton, from the same field of endeavor, discloses a system for friend-or-foe identification comprising an interrogation unit which combines a code with a random message to generate the TCOD (col. 4, lines 15-25). It would have been obvious to one of ordinary skill in the art at the time of invention to have means for combining a first COD with an RGN in order to prevent an enemy from readily duplicating it (col. 4, lines 23-25).

Regarding claim 33, Gerber '816 teaches means for fixing the projector means and the receiver means to a weapon (fig. 1).

5. Claim 1, 7, 9-11, 17, 21-25, 27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eichweber (US Patent No. 4,143,263) in view of Gerber (US Patent No. 5,966,226; hereinafter referred to as Gerber '226).

Regarding claim 23, Eichweber teaches a combat response unit for use in a combat identification as friend or foe (IFF) communications system (col. 1, lines 25-29), the combat response unit comprising: means for receiving a projected infrared (IR) transmit signal including a transmitted code of the day (TCOD) (col. 3, lines 12-15 and lines 31-36); retroreflector means for reflecting an incoming IR transmit signal generally back along the incoming path thereof (col. 2, lines 6-14); obturator means for obstructing the retroreflector means to prevent reflection thereby (col. 3, line 63 to col. 4, line 33); and means for opening and closing the obturator means according to a response code of the day (RCOD) (col. 4, lines 25-33). Eichweber does not specifically disclose that the combat response unit is adapted for a helmet. However, mounting combat response units on helmets is well known in the art. For example, Gerber '226 teaches a combat response unit adapted for mounting in a helmet for use in a combat identification as friend or foe communications system (51 of fig. 1). It would have been obvious to one of ordinary skill in the art at the time of invention to mount the unit on a helmet in order to provide practical and convenient usage of the combat response unit.

Regarding claims 1 and 11, the combined invention of Eichweber and Gerber '226 teaches a method for identifying, as friend or foe, a combat response unit having a helmet-mounted challenge receiver (Gerber '226: 51 of fig. 1) and retroreflector

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obturator (Eichweber: 8 of fig. 1), the method comprising the unordered steps of (a) projecting an infrared (IR) transmit signal including a transmitted code of the day (TCOD) onto the combat response unit from a combat interrogatory unit (Eichweber: col. 3, lines 10-15 and lines 31-35); (b) receiving the IR transmit signal and TCOD at the challenge receiver (Eichweber: fig. 1); (c) selectively reflecting the IR transmit signal by opening and closing the retroreflector obturator according to a response code of the day (RCOD) (Eichweber: col. 3, line 64 to col. 4, line 33); (d) receiving the reflected IR transmit signal and RCOD at the combat interrogatory unit (Eichweber: col. 1, lines 31-40); and (e) combining the received RCOD with the TCOD to identify the combat response unit as friend or foe (Eichweber: col. 1, lines 31-40).

Regarding claims 9 and 22, the combined invention of Eichweber and Gerber '226 teaches that the combat interrogatory unit includes a weapon-mounted interrogatory transceiver for projecting and receiving the IR transmit signal (Eichweber: col. 1, lines 31-33).

Regarding claims 10 and 21, the combined invention of Eichweber and Gerber '226 teaches means for generating an arrival quadrant signal representing the direction of arrival of the IR transmit signal in the helmet-mounted combat response unit (Eichweber: col. 4, lines 48-62).

Regarding claim 24, the combined invention of Eichweber and Gerber '226 teaches means for combining the received TCOD with a second stored COD to produce the RCOD (Eichweber: col. 3, lines 54-60).

Regarding claims 7, 17, 25 and 27, the combined invention of Eichweber and Gerber '226 teaches the limitations of claims 1, 11, 23 and 24 but does not specifically disclose means for deactivating the combat response unit responsive to a doffing of the helmet. Examiner takes official notice that it is well known in the art to turn off a unit after removal of the device. It would have been obvious to one of ordinary skill in the art at the time of invention to turn off / shut down the helmet in order to conserve power when not in use.

Regarding claim 30, the combined invention of Eichweber and Gerber '226 teaches means for generating an arrival quadrant signal representing the direction of arrival of the IR transmit signal in the helmet-mounted combat response unit (Eichweber: col. 4, lines 48-62).

6. Claims 8, 18-20, 26, 28, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eichweber in view of Gerber '226 and in further view of Clark (US Patent No. 5,448,045).

Regarding claims 8, 18, 20, 26, 28, and 29 the combined invention of Eichweber and Gerber '226 teaches the limitations of claims 1, 11, 17, 23, 25, and 27 but does not specifically disclose that the method comprises the step of accepting biometric data at the combat response unit and activating the combat response unit in response to the biometric data. However, the use of biometrics in user verification is well known. For example, Clark teaches an apparatus that accepts biometric data and verifies the information in order to activate a system (col. 5, lines 34-47). It would have been

obvious to one of ordinary skill in the art at the time of invention to accept biometric data at the combat response unit and active the combat response unit in response to the biometric data in order to provide authorization access and to increase security measures.

Regarding claim 19, the combined invention of Eichweber, Gerber '226, and Clark teaches means for fixing the transmitter means and the receiver means to a weapon (Eichweber: col. 1, lines 31-33).

7. Claims 2, 3, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eichweber in view of Gerber '226 and in further view of Wootton.

Regarding claims 2 and 12, the combined invention of Eichweber and Gerber '226 teaches the limitations of claims 1 and 11 including the limitation of combining the received TCOD with a second COD stored at the combat response unit to produce the RCOD (Eichweber: col. 3, lines 54-60). However, the combined invention of Eichweber and Gerber does not expressly disclose means for combining a first stored code of the day (COD) with a randomly-generated number (RGN) to produce the TCOD. Wootton, from the same field of endeavor, discloses a system for friend-or-foe identification comprising an interrogation unit which combines a code with a random message to generate the TCOD (col. 4, lines 15-25). It would have been obvious to one of ordinary skill in the art at the time of invention to have means for combining a first COD with an RGN in order to prevent an enemy from readily duplicating it (col. 4, lines 23-25).



Regarding claims 3 and 13, the combined invention of Eichweber, Gerber '226 and Wootton teaches the limitations of claims 2 and 12 but does not specifically disclose means for deactivating the combat response unit responsive to a doffing of the helmet. Examiner takes official notice that it is well known in the art to turn off a unit after removal of the device. It would have been obvious to one of ordinary skill in the art at the time of invention to turn off / shut down the helmet in order to conserve power when not in use.

8. Claims 4-6 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eichweber in view of Gerber '226 and Wootton and in further view of Clark.

Regarding claims 4 and 14, the combined invention of Eichweber, Gerber '226, and Wootton teaches the limitations of claims 3 and 13 but does not specifically disclose that the method comprises the step of accepting biometric data at the combat response unit and activating the combat response unit in response to the biometric data. However, the use of biometrics in user verification is well known. For example, Clark teaches an apparatus that accepts biometric data and verifies the information in order to activate a system (col. 5, lines 34-47). It would have been obvious to one of ordinary skill in the art at the time of invention to accept biometric data at the combat response unit and active the combat response unit in response to the biometric data in order to provide authorization access and to increase security measures.

Regarding claims 5 and 15, the combined invention of Eichweber, Gerber '226, Wootton, and Clark teaches that the combat interrogatory unit includes a weapon-

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mounted interrogatory transceiver for projecting and receiving the IR transmit signal (Eichweber: col. 1, lines 31-33).

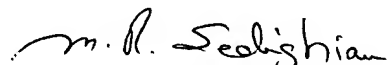
Regarding claims 6 and 16, the combined invention of Eichweber and Gerber '226 teaches means for generating an arrival quadrant signal representing the direction of arrival of the IR transmit signal in the helmet-mounted combat response unit (Eichweber: col. 4, lines 48-62).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lee whose telephone number is (571) 272-2220. The examiner can normally be reached on Monday - Friday, 9:00 am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DL

  
**M. R. SEDIGHIAN**  
**PRIMARY EXAMINER**